DOCUMENT RESUME

ED 121 906 88 UD 015 960

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TITLE	Second Year Evaluation Report for the Dothan City Schools Title III Project, "Comprehensive Services for Children."
INSTITUTION	Human Resources Research Organization, Dothan, Ala. Div. 6.
SPONS AGENCY	Dothan City Schools, Ala.
PUB DATE	Jul 73
NOTE	71p.
EDRS PRICE	MF-$0.83 HC-$3.50 Plus Postage
DESCRIPTORS	Behavior Problems; *Compensatory Education Programs; *Elementary Education; Elementary School Students; Elementary School Teachers; Emotional Problems; *Inservice Teacher Education; Program Evaluation; *Special Services; Student Adjustment; Student Problems; Urban Youth
IDENTIFIERS	Alabama (Dothan); *Dothan Alabama City Schools; Elementary Secondary Education Act Title III; ESEA Title III

ABSTRACT

This report summarizes the activities and results of the second year of the Dothan City Schools Project, "Comprehensive Services for Children," funded under Elementary Secondary Education Act Title III. The project is concerned with the provision of special services to meet the needs of elementary school children suffering socio-emotional conflict problems. The mechanism for providing such services is two-fold. One aspect is a special in-service training program for elementary school teachers, while the other involves the utilization of resource staff members with specialized skills for the handling of such problems. The principal outcomes of concern here are those dealing with the behavior and performance of the students. During the second year of the project, a larger number of teachers participated in the special in-service program than in the first year (50 as opposed to 26). Of the 50 teachers in the program this year, 5 were in their second year of participation. Various types of data were collected on the students of these 50 teachers. In addition, data were collected on the students of 9 teachers who were in the previous year's program only, and on the students of 55 teachers who did not participate in the special in-service program either year. (Author/JM)

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ED121906

HumRRO

Second Year Evaluation Report for the Dothan City Schools Title III Project, "Comprehensive Services for Children"

HumRRO Division No. 6
Dothan, Alabama

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July 1973

UD 015960

Prepared for

Dothan City Board of Education
Dothan, Alabama

PREFACE

This report presents a summary and analysis of the results of the second year of operation of the Dothan City Schools project "Comprehensive Services for Children." During that second year the project continued the general design plan initiated during the first year, but with appropriate changes based on the first year's evaluation.

Appreciation is expressed to Mr. Wayne Bradshaw, to Mrs. Ann Mobbs, and to the various staff members of the project, the Media Center, and the Superintendent's office for their cooperation and support. Special recognition is due the efforts of the teachers and principals of the 13 elementary schools of Dothan and to the 28 housewives who collected behavioral data for the evaluation.

The HumRRO evaluation team consisted of Mr. L. Paul Dufilho, Mr. H. Alton Boyd, and Dr. Wallace W. Prophet.

TABLE OF CONTENTS

PREFACE

Page

Chapter

I. EXECUTIVE SUMMARY 1

II. IMPLICATIONS AND RECOMMENDATIONS..... 5

III. PROGRAM DESCRIPTION 7

Student Related Objectives..... 8

Staff Related Objectives..... 9

Parent Related Objectives 9

Community Related Objectives..... 9

Teacher Training Related Objectives 10

Administration Related Objectives..... 10

IV. EVALUATION DESIGN..... 11

Treatments (Teachers)..... 12

Subjects (Students)..... 13

Evaluation Instruments..... 16

V. RESULTS..... 22

Cognitive Outcomes..... 23

Affective Outcomes..... 24

Behavioral Outcomes..... 25

Observation Results..... 26

Attendance Results..... 41

Informal Observations..... 43

Summary Results..... 47

Appendices

A Schedule of In-Service Training Activities for School Year 1972-1973

Appendices (Cont'd)

B Room Rating Form (Exceptional Student Rating Form)
Pupil Rating Form

C Categories of Student Behavior

D. Dothan City School Observer Data Forms

E Distribution of Experimental and Control Students by Grade, Teacher Category, School, and Observer

I. EXECUTIVE SUMMARY

This report summarizes the activities and results of the second year of the Dothan City Schools project, "Comprehensive Services for Children." The project is concerned with the provision of special services to meet the needs of elementary school children suffering socio-emotional conflict problems. The mechanism for providing such services is two-fold. One aspect is a special in-service training program for elementary school teachers, while the other involves the utilization of resource staff members with specialized skills for the handling of such problems. While there are a variety of indices available to indicate project outcomes, (e.g., school-community contacts, agency referrals, teacher-parent conferences), the principal outcomes of concern are those dealing with the behavior and performance of the students.

During the first year of the project principal emphasis was on classroom management by the teacher. Results[1/][2/][3/] suggested that participation in the in-service training program did provide the teachers with special skills that enabled them better to handle the classroom behavior problems of children with significant socio-emotional conflict than did other teachers who did not participate in the special in-service training. The method developed for identifying conflict students and for securing behavioral observation data proved effective. In the academic achievement area, the students of the special in-service

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[1/] Final Evaluation Report for the Dothan City Public Schools, Title III Project, "Comprehensive Services for Socio-Emotional Conflict." Institute for the Development of Educational Auditing, 1 August 1972.

[2/] The Occurrence of Inappropriate Classroom Behavior Among Elementary School Students. H. Alton Boyd, L. Paul Dufilho, Wallace W. Prophet, and Paul W. Caro. HumRRO Division No. 6, July 1972.

[3/] Analysis of Achievement, Attendance, and Emotional Conflict Indices Data for the Study: Comprehensive Services for Socio-Emotional Conflict. HumRRO Division No. 6, Dothan, Alabama.

teachers tended to perform less well than those of the other teachers, a finding possibly attributable to regular classroom absence of the participating teachers.

As a result of these findings, a somewhat greater emphasis was placed on student cognitive skill development in the second year of the project. For example, changes in content emphasis in the teacher in-service program were made through bringing in university consultants to teach modules dealing with instructional objectives, communication skills, and individualized instructional strategies, and changes were made in scheduling the in-service training so as to reduce the time the teachers were required to be away from their students.

The extent to which these program changes affected student achievement cannot be ascertained at the time of this evaluation because post-test achievement data were not available. Due to administrative considerations the decision was made by the Dothan Schools Superintendent that achievement tests would not be administered at the end of the 1972-73 school year. Instead, the system will administer achievement tests at the beginning of the 1973-74 school year so that the results can be used in diagnostic fashion. Thus, post-test achievement data for the 1972-73 year's activities under the Comprehensive Services project will not be available until early in the 1973-74 school year.

During the second year of the project a larger number of teachers (N=50) participated in the special in-service program than in the first year (N=26). Of the 50 teachers in the program this year, 5 were in their second year of participation. Various types of data were collected on the students of these 50 teachers. In addition, data were collected on the students of 9 teachers who were in the previous year's program only and on the students of 55 teachers who did not participate in the special in-service program either year.

The evaluation of the second year's operation of the project relied

heavily on specific observations of student behavior as did the first year's evaluation. The results continue to support, but with some qualifications, the efficacy of the special in-service program as a means of upgrading teacher skills in the management of classroom behavior for both the students with emotional conflict problems and those without such problems. While interpretation of the second year data is more complex, the benefits of the program, in terms of improved student behavior, are clear.

The data also are consonant with those of the first year in indicating that different classroom management techniques are required for children with emotional conflict problems as compared with the techniques useful with non-conflict students. The in-service training program offers an effective means of transmitting those techniques to teachers in a school system. While increasing attention is being and should be given to such techniques in teacher training institutions as a part of basic teacher education, there probably is no substitute for the live classroom as the "laboratory" in which teachers develop the application of such techniques.

Analysis of second year results suggests two areas of concern in future operation of the program. The fact that considerable variability existed among the 13 schools in the results obtained suggests that behavioral outcomes are partly a function of faculty and administration factors. For innovation to work, there must be improved intercommunication and cooperation at all levels in the system.

The second area concerns differences in results as a function of grade level. An implication of this finding is that more attention should be given in the next year of the program to tailoring the in-service training to the grade-level needs of the participating teachers. There are two aspects of this point. First, attention needs to be given to developing reinforcement techniques

that are effective for each grade level. The second concerns the criticality of building behavior patterns at the earliest grade levels that are both appropriate to the classroom situation and that are satisfying to the student. If inappropriate behaviors are reinforced at early grade levels they become much more difficult to change at the upper grade levels.

A final major point of concern resulting from this year's evaluation relates to the concept of common in-service training for all teachers. While one can undoubtedly make a strong case for the need for certain common core training for all teachers, or at least all teachers of a given category as, for example, elementary teachers, attention should also be given to the need for individualizing in-service training. It should be recognized that not every teacher will benefit from exposure to a given training program. Perhaps more importantly, as school systems seek to instill new and innovative programs they should recognize that change is difficult, at best, and may be impossible, in any practical sense, for some individuals. As an in-service program expands from a smaller interested group of teachers to encompass a whole system, its overall effectiveness will probably decline. It will not produce equivalent results for all members of the system. These facts should be borne in mind by administrators as school systems are required increasingly to establish in-service training programs for all teachers.

II. IMPLICATIONS AND RECOMMENDATIONS

On the basis of the information contained in this report and general observations of the evaluation team, the following recommendations are offered for management use. As stated elsewhere, perhaps the principal use of evaluation is to provide information for management decisions and required changes. It is felt that the Comprehensive Services program is producing changes that are benefiting the students in the system, and it is hoped that these recommendations will increase the benefits in the future. The recommendations are:

1. That the in-service training programs have both common core and individualized subject matter areas.

2. That there be concerted effort to see that in-service training is followed up by appropriate application in the classroom.

3. That the program next year devote more attention to the reasons for differences among various building representative subgroups in the effectiveness of their classroom management procedures and that such information be considered as a basis for alternative in-service approaches.

4. That communication within and between the various elements of the school system concerning program goals and procedures be expanded and that systematic procedures be developed to further such communication.

5. That achievement tests, classroom observations, and all other special pre-test measures for this program be administered as early as possible in the 1973-74 school year to prevent their being influenced by the new educational experience of that year.

6. That institution of specific contingency management measures by participating teachers be delayed, if possible, until after the pre-test observational data have been gathered.

7. That the performance of former building representative teachers,

or at least samples thereof, continue to be monitored in the third year evaluation process.

8. That each participating teacher develop at least one program aimed at student classroom behavior and one aimed at academic achievement.

9. That further investigation be made of the use of student behavioral observation data as one index of the effectiveness of teacher classroom management practices.

10. That the evaluation design procedures be revised appropriately in light of the fact that there will be no "other teacher" category left in the elementary population (or at least it will be of small size).

11. That reduction of all evaluation data to punched card format be accomplished as soon as practicable after the data are acquired to aid in data analysis.

12. That the various student and teacher populations of concern in the evaluation be defined in advance of the opening of the 1973-74 school year if at all possible.

III. PROGRAM DESCRIPTION

The general nature of the Comprehensive Services Project was described in the first year's evaluation report.[1/] Therefore, the rationale for the effort and its general conception need not be repeated in detail here. Briefly, the project seeks to develop better means of meeting the needs of elementary school children in the Dothan City Schools who have socio-emotional conflict problems of sufficient magnitude to impair their progress or adjustment in school or that of their peers. The mechanism to meet such needs is the provision of special in-service training to selected teachers and the provision of special personnal services by central staff members. The special in-service training is provided to teachers during released time made possible by employment of substitute teachers.

Whereas during the first year of the project only two teachers[2/] from each of the 13 elementary schools in Dothan received the special in-service training, in the 1972-73 school year, there were four Building Representatives from each school. Of these 52 Building Representatives, five had been Building Representatives the previous year, while the remainder were participating for the first time. All participants were volunteers.

During the first year of the project the Building Representatives were released from their classroom duties one day each week to participate in the special in-service program. The first year project evaluation report suggested that teacher absence of this frequency was undesirable, so the in-service program was reorganized for the 1972-73 school year to minimize teacher absences. Two workshops totaling eight days were held in August 1973 prior to the opening

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[1/] IDEA reprint Aug. 72.

[2/] These teachers are referred to as "Building Representatives."

of school. After the opening of school, the teachers were released from classroom duties for fourteen scheduled days to take part in the in-service training. The various activities in the in-service program are contained in Appendix A.

The orientation of the project is to provide teachers with both the specific skills to enable them to work more effectively with children who have emotional problems and general skills that will be beneficial in dealing with all children in their classrooms. Accordingly, the project design sought to avoid having the teachers concentrate on specific children selected for study by the project administration. While the evaluation design did select specific samples of students who exhibited signs of emotional conflict for observation and other data collection and analysis, the identities of these children were not divulged to the teachers or to the project administration and staff.

The general objectives of the program were essentially the same as for its first year of operation. Objectives were categorized as follows: (1) student related; (2) staff related; (3) parent related; (4) community related; and (5) administration related.

1. Student Related Objectives

The basic objective in this area was to upgrade the living skills of elementary students with emotional and/or social conflict problems through behavior modification to enable them to function more effectively in the total school setting. Undoubtedly, one can relate almost any aspect of what a child does, thinks, or feels to living skills. However, the intent of the project, simply, was to assist students in becoming more effective in their ability to cope with their own problems and those related to the school environment. Since the schools cannot deal directly, at least in any major way, with the non-school background circumstances that affect the behavior and affective reactions of students, the project sought to provide the teacher the skills and knowledge

required to make constructive classroom intervention with students suffering conflict problems. Therefore, the major outcome variable was to be classroom behavior change. It was felt that positive behavior changes in the classroom and the child's learning that appropriate behavior produces favorable consequences could produce desirable general effects. More appropriate general behavior in the classroom might logically be expected to result in higher academic achievement, better school attendance, and a more favorable image of the student as seen by himself, his peers, and his teachers.

2. Staff Related Objectives

The general objective was to provide knowledge, information, and understanding regarding conflict to the participating teachers through the in-service training program and the services of consultants and central staff members. Professional staff members and consultants utilized included educators, psychologists, psychiatrists, and social workers. The goal of the project, over time, was to develop in-depth expertise that could be turnkeyed back into the system. In-service training was designed to provide teachers with the skills and knowledge required to manage classroom situations more effectively and to advance the students' best interests.

3. Parent Related Objectives

It was recognized that to be maximally effective a program dealing with children's conflict problems must involve parents. Therefore, an objective of the program was to establish mechanisms for the teachers and the system to interact with parents more frequently and effectively.

4. Community Related Objectives

Similarly, it was recognized that the involvement of the overall community and its human service agencies would be helpful in meeting the needs of the children of concern. Consequently, a program of agency referral and public

information was established.

5. Administration Related Objectives

The project was designed to provide the school administration with data on the products or results of specific procedures and activities (program model) by the staff. Knowledge of the costs and benefits of program alternatives is a necessary part of effective management and is an integral part of accountability.

IV. EVALUATION DESIGN

The general evaluation design established for the first year of the project was carried through the second year. The function of evaluation is to provide management information on program operation. It is, in effect, part of a quality control operation. As such, the goal is not simply that of providing passive status descriptions of past events, but, more importantly, to provide a basis for management decisions about the future. Quality control is a dynamic process, one of whose principal functions is continuing constructive adjustment of the system of concern. Thus, evaluation is a tool for guiding change in a system in order better to meet the system's objectives.

As previously noted, the program was modified after the first year's evaluation to facilitate its operation and the accomplishment of its objectives. The present evaluation will provide additional suggestions for changes in the third year of the program or for its implementation elsewhere.

DESIGN

The program utilized a 2 x 2 x 2 design with two treatment groups (teachers), two subject groups (students), and observations made at two points in time (observations). Several different types of data (observations) were utilized.

Treatment groups consisted of two groups of elementary teachers; those who received the special in-service training related to emotional conflict (N=52) and a group of elementary teachers who did not receive such training (N=55). Subject groups were two groups of elementary school students; students whose behavior or self-report during the preceding school year could be characterized as indicative of significant socio-emotional conflict (N=250), and those whose behavior and self-report during the preceding school year gave no evidence of socio-emotional conflict (N=249). Two sets of behavioral observations,

pre- and post-study, were gathered, at the beginning and end of the 1972-73 school year, respectively. These observations of the occurrence of inappropriate behavior were made in the classroom by 28 observers specially trained for this purpose. The observations provided the data for analysis to assess the effects of the special in-service teacher training on student classroom behavior. In addition, various other types of data (see section on Evaluation Instruments) were used for pre-post comparisons.

TREATMENTS (Teachers)

The type of professional training given two groups of elementary school teachers in the Dothan City Schools comprised the basic treatments being compared. One group received special in-service training, while the other group did not. The overall project is focused on the provision of special services to students with significant socio-emotional conflict through a special pupil personnel staff and through special in-service training for classroom teachers. In each of the 13 Dothan elementary schools four teachers, or "Building Representatives," were selected by school administrative personnel to receive the special in-service training during the 1972-73 school year. These 52 Building Representatives[1/] comprise one treatment group.

From the remaining 106 elementary classroom teachers in the system, 55 were chosen to serve as a control group. These 55 teachers constitute the second treatment group and will be referred to as the "Other Teachers" [2/] group. They were selected on the basis of their not having previously served as Building Representatives, the number of observers available for the study, coverage across schools and grade levels, and presence of appropriate target students within their classrooms.

[1/] The abbreviation, BR, will be used frequently in this report to denote the Building Representatives group.

[2/] The abbreviation, OT, will be used for the Other Teachers group.

Two of the 52 Building Representatives were unable to participate in all phases of the program due to illness. Of the remaining 50, five had also served as Building Representatives during the first year of the project.

In addition to the two principal teacher groups described above (the 52 Building Representatives and the 55 Other Teachers), an additional teacher group of interest was those teachers who were Building Representatives during the first year of the program only. Of 18 still in the system during 1972-73, nine were included in this year's evaluation. Data on children in their classes during the current school year are examined in the Results section to determine carry-over effects from the 1971-72 in-service training program.

SUBJECTS (Students)

Two pools of students were identified. From these, the specific students on whom behavioral observations were to be made were selected. The Experimental Pool [1/] consisted of those students whose previous behavior gave some indication of significant socio-emotional conflict. The Controls were those with apparent absence of such conflict.

Experimental Students

Operationally, Experimental Students were selected on the basis of data from (1) an Exceptional Student Rating Form and/or (2) the Popham Self Appraisal

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[1/] The term "Experimental" is used here simply to denote that group of students of principal concern in the study, i.e., those students judged to be suffering socio-emotional conflict problems of a severity sufficient to cause inappropriate or undesirable classroom behavior of an unusual degree or kind. Such behavior would likely interfere with the learning or general adjustment of that student or of his peers. There were no "experimental" manipulations of these students in the more general usage of the term.

Inventory (a measure of self-concept).[1/] Both of these instruments were completed at the close of the preceding school year, the first by the preceding year's teacher, and the second by the student himself. A specimen of the Exceptional Student Rating Form is shown in Appendix B. The selection procedure was designed to identify those students exhibiting the highest degree of conflict-related behavioral exceptionality (as judged by the preceding year's teacher) and those exhibiting the weakest self-concepts (as indicated by student self-report on the Popham). There were a total of 441 students who met the criteria for inclusion in the Experimental Pool. This is 9.8% of the beginning total enrollment of 4,496 students in the 13 elementary schools of Dothan. However, since the selection criteria necessitated that the child have been enrolled in school the previous year, only grades 2-6 were eligible for inclusion. Thus, the 441 students comprised 11.8% of the beginning enrollment of 3,744 for grades two through six. Of these, 250 were actually included in the pre-test data collection.

Specific criteria for the selection of Experimental Students were as follows:

1. (Grades 2 - 6) Received an Exceptional Student Rating of "1" in one or more behavioral categories from previous year's teacher.

2. (Grades 2 - 3) Popham total scores equal to or less than 12.

3. (Grades 4 - 6) Popham total scores equal to or less than 35.

Control Students

Students selected for the Control Pool were also selected on the basis of Exceptional Student Rating Form and Popham scores. In addition, a HumRRO prepared semantic differential Pupil Rating Form (see Appendix B), also completed by the

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[1/] This instrument (*Self Appraisal Inventory*) is available from the Instructional Objectives Exchange, Box 24095, Los Angeles, California, 90024.

previous year's teacher, was used in the selection of Controls. Control Pool students were required to meet all of the following criteria:

1. (Grades 2 - 3) Popham total scores equal to or greater than 25.

2. (Grades 4 - 6) Popham total scores equal to or greater than 60.

3. (Grades 2 - 6) The sum of "6" and "7" position ratings given by the previous year's teacher on the Pupil Rating Form must be "0" (i.e., the student must have received no "6" or "7" ratings).

4. (Grades 2 - 6) Must have received no nominations by the previous year's teacher on the Exceptional Student Rating Form.

It was required, in addition, that any student selected for either the Experimental or Control Pool have complete records on the Popham, the Student Rating Form, and the Exceptional Student Rating Form. Students who otherwise met the selection criteria, but were (1) repeaters, (2) being taught by the same teacher who had taught them the preceding year, or who (3) were or would be students in a self-contained special education class were excluded from selection in either pool. First-grade students had no Popham, Exceptional Student Rating Form, or Pupil Rating Form scores since they were not in school the previous year and were, thus, not eligible to be selected for either pool. A total of 619 students met the criteria for inclusion in the Control Pool. This was 16.5% of the 3,744 students enrolled in grades two through six.

The identification of students for the Experimental and Control Pools and the ultimate selection of specific students to be observed were performed by HumRRO personnel. Identities of the specific students observed were not known to the Dothan City Schools administrative personnel nor to the classroom teachers in whose rooms the observations were made. While the observers had to know which children were to be observed, they did not know which were Experimentals or Controls.

While there were 441 students in the Experimental Pool and 619 in the Control Pool, smaller numbers are used in the actual analysis. Since one of the principal indices used in this evaluation is the data dealing with observations of student classroom behavior by trained observers, there were some very practical constraints on the numbers of students used in the analyses. The number of trained observers available (N=28) was the basic determining factor. Therefore, pre-test data were collected on 250 Experimental students and 249 Control students, or approximately 57% and 40% of their original pools respectively.

EVALUATION INSTRUMENTS

A number of product variables were examined as a basis for evaluating the results of the project. The evaluation instruments utilized can be classified as: (1) tests treating cognitive factors; (2) tests treating affective factors; and (3) behavioral observations.

COGNITIVE

The primary means of assessing the relationship of the program to the accomplishment of cognitive objectives was through the use of standardized achievement tests. The pre-test data were the results of achievement testing [1] administered at the end of the 1971-72 school year. [2] It was intended that the same series of tests would be administered at the end of the 1972-73 school year and would provide the post-test data for the 1972-73 year. However, late in the school year an administrative decision was made by the Dothan City Schools that all future achievement testing in the Dothan School System would occur at the beginning of the school year rather than at the end. It was felt that the results would be more useful as a

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[1] The Metropolitan Achievement Test series was utilized.

[2] These same results had served as post-test data at the end of the 1971-72 school year.

diagnostic tool to assist the teacher in designing instructional strategies for her pupils during that school year if the tests were administered at the beginning of the school year. As a consequence, there are no 1972-73 post-test data available to use in the present evaluation. Therefore, assessment of the extent to which the program may have benefited the students in their cognitive development will have to await the completion of achievement testing early in the 1973-74 school year. It should be noted that post-test achievement data will be available in September, 1974, for use in the third year evaluation.

AFFECTIVE

Two affective measures were utilized, the Popham Self Appraisal Inventory and the HumRRO semantic differential Pupil Rating Form. These instruments were discussed in the section dealing with selection of the Experimental and Control student samples. Scores derived from their administration at the end of the 1971-72 school year served as pre-test scores, while those at the end of the 1972-73 year served as post-test scores for the present evaluation. It should be kept in mind that their use was primarily as student selection tools rather than as outcome measures.

BEHAVIORAL

The principal behavioral index was a series of specific behavioral observations made in the classroom by specially trained observers. School attendance records supplied a second, minor behavioral index. The following paragraphs describe the classroom behavioral observation procedure in detail.

Observations

Observer Training. Twenty-eight women were selected by Dothan City Schools personnel for observer training in a HumRRO conducted workshop. On October 5, 1972, the initial training session of a five-day workshop on the observation and

recording of classroom behavior was held at Girard Elementary School. HumRRO personnel responsible for the workshop explained the purposes of the overall project and training program. Attendees were told that their training was intended to prepare them to observe and record, accurately and reliably, certain behaviors of selected pupils. These behaviors are described in Appendix C.

After the initial meeting, the trainee group was divided into smaller groups. Materials used in training included (1) handouts describing categories of student behavior to be observed, (2) data record forms, (3) stopwatches, (4) clipboards, (5) pencils, and (6) practice data collection schedules. A total of 30 hours of training was administered over the five days. Twenty of the 30 hours' training were conducted at Girard Avenue Elementary School, and trainees spent the other ten hours in practice observation and data collection in the schools to which they had been assigned to collect the actual data.

During the remainder of the first workshop day the various categories of student behavior were explained, demonstrated, and discussed. The necessity for objective observation and recording was stressed. Initial practice sessions of observing and recording "student behavior" (with HumRRO personnel acting as "students") revealed considerable variation in trainees' practice data. Discussion of this variance increased trainees' appreciation of the importance of their own attending behavior, physical points-of-view, (e.g., sitting where the students could be most efficiently observed), familiarity with categories of student behaviors, etc. Subsequent practice sessions reduced data variance.

The necessity for observer confidentiality regarding the data collection process was explained in terms of avoiding bias related to probable changes in student and teacher behavior as a function of knowing which students had been selected for observation. The importance of avoiding observer bias through the objective and unemotional collection of data was also discussed. The latter point

was pertinent due to the personal acquaintance of some of the observer trainees with students and teachers in the classrooms to which they were assigned for data collection. Trainees were instructed on how to assume minimally noticeable roles in the classroom and how to minimize social interaction with students and teachers during data collection.

The second and third training days each consisted of six hours' practice observation and data recording in regular classrooms at Girard Avenue Elementary School followed by two hours' instructors' critique of the day's practice activities.

Practice observation and data collection on the fourth and fifth training days took place in the schools to which the observers were assigned for collection of actual data during the following week. The purpose of these practice sessions was to give observers the opportunity to identify those students whom they were to observe subsequently and to allow the students to adjust to the observer's presence in the classroom. A final two-hour critique of the practice data ended the training program.

The observers were assigned to schools by Dothan City Schools personnel primarily on the basis of their knowing and being known by the fewest students and teachers at those schools.

Data Collection Procedure. Five students and an alternate were selected for observation in each of the classrooms in which observations were to be made. As many Experimental students as possible were utilized so as to maximize the number of conflict students observed. To the extent that there were fewer than five Experimentals in a given classroom, Controls were utilized, and in the event there were not enough students from either pool in a classroom, names were chosen randomly from among the other students in that classroom. These students will be referred to as "Unclassified." On each Data Record Form, the name of a sixth student, or

alternate, was added, in the event one of the five intended for observation was unavailable on the first observation day. If the alternate was substituted for this reason, he was also observed on subsequent occasions in lieu of the originally specified student. Samples of the individual and summary Data Record Forms are shown in Appendix D.

The study design called for each of 28 observers to be assigned five students in each of four classrooms for a total of 560 students on whom data potentially would be collected. The distribution of students selected for the two pools, absences, and other factors reduced the number of students who were observed to 499.

Two sets of observational data are analyzed in this report. The first was collected in October, 1972, and the second in May, 1973. A short refresher training period was given the observers prior to the second observation period.

Each observer collected data on the same students on both the pre- and post-test occasions. As described in the Results Section, however, some data were lost due to various kinds of schedule interference or absence of students or observers.

Data were collected on five consecutive school days during each of the data collection periods. Six samples of student behavior per class period were recorded resulting in a total of 30 possible observations per student for each of the five-day data collection periods.

Data were collected in the following manner. Observers entered their assigned classrooms at the beginning of the regular periods. The first 20 minutes were spent in an accommodation phase during which it was intended that the students, teacher, and observer would get accustomed to each other. The observer also used this time to locate the students to be observed. About 30 minutes were then spent in observing the five S students, one after the other, in a series of six observational sequences. Approximately one minute was spent on each observation, as follows. The observer visually identified the appropriate student, started the stopwatch,

and closely watched the student's behavior for a timed 45 seconds. The observer then immediately recorded the occurrence or non-occurrence of each of the nine [1/] behavior categories listed by that student's name on the Data Record Form, a process which usually took about 15 seconds. After recording the data, the observer looked up, identified the next student to be observed, and began the cycle again. After all five assigned students had been observed once, the observer repeated the sequence of observations five more times. In this manner each student was observed for 45 seconds on each of six occasions at five-minute intervals during one class period per day for five consecutive days.

[1/] Eight of the categories were types of inappropriate behavior; the ninth category was "appropriate."

V. RESULTS

The organization of the Results Section of this report generally follows from the material presented in the preceding Evaluation Design Section. It is obvious that a project of the size of the present one can be evaluated only on a sampling basis. The number of process and program factors that could affect outcomes is quite large, and, similarly, the number of potential outcome variables is also large. Therefore, in an evaluation of this sort the number of outcome variables that one can measure and "evaluate" is necessarily a limited sampling of those possible. However, the sampling of outcome factors is intended to reflect the major dimensions of interest in this project.

In presenting the results emphasis is placed on the sample of students on whom both pre- and post-test classroom behavior observational data were gathered. It will be recalled that there were 52 BR teachers[1/] and 55 OT teachers in the study. Pre-test behavioral observations were gathered on approximately 500 students in the classrooms of these teachers. Data were gathered on a smaller number in the post-test period. The reduction in sample size was due to factors such as student absences, transfer of students out of a school or the system, and observer absence. Table 1 gives the numbers of students observed. Those students on whom both pre- and post-test observation data were available constitute the basic analysis unit.

Reference to Table 1 reveals that there was a reduction in size of N for both teacher groups from pre- to post-test, but that the reduction was more pronounced among the BR group. The number of post-test observations of BR students was 177, or 72% of the pre-test N, whereas for OT students the number was

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[1/] Data were not acquired on two of this group because illness curtailed their participation.

225, 89% of the original group. All of the factors cited in reducing the post-test N were working here, but the inability of several observers to meet post-test schedules hit the BR group hardest and accounts for the relatively greater loss of post-test data among that group. However, comparison of pre-test data of those students "lost" to the post-test group with the pre-test data of those who were observed in the post-test period reveals no significant differences. Thus, it can be concluded that the 177 BR students and 225 OT students on whom both pre- and post-test data were gathered are representative samples of their respective populations. The Ns are judged to be more than adequate for stable statistical representation. A more detailed breakout of the numbers of students observed is given in Appendix E.

Table 1

NUMBERS OF STUDENTS OBSERVED

Teacher-Student Groups	Pre-Test Period (Oct 1972)	Post-Test Period (May 1973)
Building Representatives		
Experimental	129	87
Control	116	90
TOTAL	245	177
Other Teachers		
Experimental	121	109
Control	133	116
TOTAL	245	225

COGNITIVE OUTCOMES

As noted in the Evaluation Design Section, the principal cognitive outcome to be examined was student achievement. Due to the change in achievement testing schedule in the Dothan City Schools no post-test achievement data are

available at this writing. Therefore, achievement results will be reported in a supplemental report at such time as the data become available.

Some of the teachers who participated in the contingency management workshops applied contingency management techniques to student academic achievement behavior as part of their workshop activities. No summary record of these programs is offered here, but anecdotal report by a number of the teachers revealed substantial positive results. However, since the selection of type of problem to which contingency management was applied was highly variable across the BR teacher group, such outcomes cannot be viewed as indicative of the overall effectiveness of the special in-service training program.

AFFECTIVE OUTCOMES

As noted in the Design Section, the Popham inventory and the Pupil Rating Form gave some indication of affective factors. Their use, though, was primarily for purposes of identifying or selecting the student population subgroups. They were not intended as primary outcome measures. Data on them are reported for descriptive purposes.

Due to delay in machine scoring of the post-test Popham measures by another agency, these data are not available for the present report. Analysis of the Pupil Rating Form data[1/] reveals that the pre-post differences were not significant for the BR Experimental group, but there was a significant difference between pre- and post-test data for the OT Experimentals ($t=2.15$, $p < .05$). As would be expected, the difference between Experimentals and Controls was highly significant both for BR teachers ($t=4.53$, $p < .001$) and OT teachers ($t=4.80$, $p < .001$).

[1/] In this analysis the number of "6" and "7" ratings the student received on the PRF was used as his score.

BEHAVIORAL OUTCOMES

As stated, the principal concern of the Comprehensive Services project was student living skills, and the primary data were observations of classroom behavior by independent observers. The behavioral observations focused on inappropriate behaviors since one of the primary problems of children with conflict problems is the relatively higher frequency with which they exhibit behavior that is inappropriate for a given occasion. In the classroom, to the extent that the child's behavior is inappropriate, it interferes with his learning and adjustment as well as that of his peers. It is for this reason that the Comprehensive Services program has focused on the teacher's classroom management skills as being of primary concern.

DATA FORMS SCORING

Separate scores were derived for each student for the observational data collected during the pre- and post- data collection sessions. These scores were a function of the total number of inappropriate behavior categories a student was observed to exhibit during an observation and the number of times he was observed. The maximum number of observation periods possible on a given student was six per day, or a total of 30 within the five-day observation session. However, due to absenteeism and classroom interruptions, not all students were observed the maximum number of times.

A single score was obtained by summing the inappropriate behavior tally marks on the Observer Data Form and dividing by the total number of observation periods for which there were data. A tally mark represented the occurrence of a category or type of inappropriate behavior and not the frequency with which it occurred. Therefore, the quotient from the above division is the mean number of inappropriate behavior categories a given student exhibited during an observation

session. These derived scores were used in the statistical calculations reported in this section.[1/]

OBSERVATION RESULTS

The observational data of greatest generality were the mean numbers of inappropriate behavior categories exhibited by the various student groups. Table 2 presents these means for the various teacher-student group combinations for pre- and post-test classroom behavior observations. These means are based on the Ns given in Table 1.

Table 2

MEAN NUMBER OF INAPPROPRIATE BEHAVIOR CATEGORIES OBSERVED

	Teachers			
	Building Representatives		Other Teachers	
Students	Pre	Post	Pre	Post
Experimentals	1.11	1.05	1.05	1.05
Controls	0.97	1.00	0.91	0.89

As can be seen from these data, the procedure for selecting experimental and control students produced results highly similar to those of the first year

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[1/] Reference to the Observer Data Form in Appendix D shows that there were eight different categories of inappropriate behavior that could be reported. Thus, the maximum number of tallies that could be recorded for a single 45-second observation period was eight, regardless of the number of times any one of the behaviors occurred during the 45 seconds. Since there were eight different categories of inappropriate behavior and the maximum number of times a student could be observed was 30, his maximum mean score would be 240 ÷ 30, or 8.00. In much of the discussion in this report the mean number of inappropriate behavior categories observed will be referred to as *frequency of inappropriate behavior*. The reader is cautioned to keep in mind how this "frequency" score is derived.

of the program.[1/] Comparison of means for pre-test scores between the BR and OT groups reveals that none of the differences is significant. For Experimentals t = 0.85, while for the Control students t = 1.06 on the pre-test means. Thus, procedure for the assignment of Experimental and Control students to the BR and OT teacher groups produce essentially equivalent samplings of students for both teacher groups as far as student pre-test behavior is concerned. On the other hand, if the student selection procedure was making valid discrimination between students with conflict problems (Experimentals) and those without such problems (Controls), one would expect significant differences in the pre-test behavior of these two student groups. Such was the case. For the BR group, t = 2.19 for the difference in pre-test means between Experimental and Control groups. This is significant at the 5% level. For the OT group, t = 2.19 also. Thus, it can be concluded that the student selection procedure was valid and that the sampling design produced equivalent samplings for both BR and OT groups.

The comparison of main interest in Table 2 is the comparison of pre- and post-test means for the various groups. As can be seen, the BR Experimental students showed a slight decrease in inappropriate behavior over the year, but the decrease was not statistically significant (t = 1.15). This contrasts with the results of the first year of the program in which a significant reduction was noted. Similarly, pre-post comparisons for BR Controls (t = 0.83), for OT Experimentals (t = 0.00), and for OT Controls (t = 0.55) were not significant. Thus, the behavioral data show no significant change from pre-test to post-test for any of the four teacher-student groups in Table 2.

[1/] During the first year the mean for BR Experimentals was 1.20; for BR Controls it was 0.93; for OT Experimentals it was 1.11; and for OT Controls it was 0.96.

It should be kept in mind, however, that the BR data in Table 2 represent the students of all BR teachers regardless of whether the teacher was a building representative in 1972-73 only, in 1971-72 only, or for both years. In order to ascertain the differential effects of the program over the two years it is necessary to separate the data for the three different BR groups. This is done in Table 3. Of course, the OT group does not have year subgroups of this sort that are of concern in the study.

Table 3

MEAN NUMBER OF INAPPROPRIATE BEHAVIOR CATEGORIES OBSERVED BY STUDENT-BUILDING REPRESENTATIVE GROUPINGS

		Teachers					
		BR1 1972-73 only		BR2 1971-72 only		BR3 1971-72-73	
Students		Pre	Post	Pre	Post	Pre	Post
Experimentals	M	1.14	1.12	1.07	0.98	0.93	0.77
	N	61	61	16	16	10	10
Controls	M	1.09	1.02	0.80	0.99	0.84	0.90
	N	52	52	25	25	13	13

The data in Table 3 indicate that practically no change occurred in the behavior of Experimental students of those teachers who were BRs only for the 1972-73 school year ($t = 0.31$), whereas the change was somewhat more pronounced for those teachers who were BRs in 1971-72 only or for both the 1971-72 and 1972-73 years. Even so, because of the small Ns in the latter groups, the pre-post differences for Experimental students were not significant ($t = 0.98$ for BR2 and $t = 0.93$ for BR3). Among BR Control students in Table 3, the change for the BR1 group is not significant ($t = 1.48$), nor is that for the BR3 group ($t = 0.63$). However, the change for the BR2 group, an increase in inappropriate behavior, is significant at the 1% level ($t = 3.27$).

Examination of the data in this detail suggests that through the chance operation of school assignment procedures those teachers in the BR1 group, i.e.,

those who were building representatives only during the 1972-73 school year, tended to have Experimental students with higher mean pre-test scores than did the other two BR groups or the OT group. In addition, the Control students of the BR1 teachers had unusually high pre-test scores (M = 1.09) as compared with those of the BR2 and BR3 groups (M = 0.80 and 0.84, respectively). Thus, the BR1 teachers were, by chance, assigned students who exhibited more inappropriate behavior than might normally be expected in a class. This, in turn, may have over-taxed their ability to manage their classrooms. If this were true, it might explain their failure to effect significant reductions in the amount of inappropriate behavior exhibited by their students over the course of the school year. Of course, it is also possible that, as a group, they were not effective behavior managers and would have produced similar results regardless of the composition of their classes.

These same data indicate that those teachers who were Building Representatives during the first year of the project, 1971-72, tended to replicate their results this past year. Both the BR2 and BR3 groups showed reductions in inappropriate behavior among Experimental students, though, as noted, the Ns were too small for statistical significance.

There is also some suggestion in these data that the mean value of 1.00, or thereabout, is the value at which a child's inappropriate behavior becomes a concern to the teacher. It could be hypothesized that below this value the typical teacher can tolerate the inappropriate behavior and is not sufficiently concerned that she seek actively to reduce it. Thus, the means for Control students of BR2 and BR3 could increase over the year without causing the teacher any great concern.

The acceptance of the Comprehensive Services program and the cooperation of principal and faculty varied from school to school. This would be expected as a function of variations in composition of student bodies and faculty, and simply as

a function of personalities. Consequently, the observational data were examined by school to see if there were systematic differences. Table 4 presents mean pre- and post-test scores for the various student-teacher groupings by school. The BR grouping includes all BRs.

As can be seen in Table 4, there were substantial differences between schools. In some schools substantial reductions in inappropriate behaviors took place, while in others there were consistent increases. The reader is advised, however, that these data should be interpreted with caution since the numbers of students involved in a particular school-teacher-student combination may be extremely small. The sub-group Ns varied from 2 to 21 for BR Experimentals, from 2 to 13 for BR Controls, from 1 to 22 for OT Experimentals, and from 2 to 23 for OT Controls. The missing data cells on schools 6 and 13 were due to inability of the classroom observer to participate in post-test data collection.

It is sometimes suggested that behavior management techniques are easier to apply with younger children because the teacher is better able to control the reinforcers that are meaningful to the younger age groups. For example, one could hypothesize that teacher approval, permission to assume certain classroom maintenance tasks, use of coloring materials, play time, and similar reinforcers readily available to the teacher are more attractive to the younger elementary child than to the older. In an attempt to shed some light on such areas the data were analyzed by grade level, as shown in Table 5. The reader is reminded that no data were collected on first graders because of inability to classify them on the basis of their previous school year's records.

There are several things of interest in Table 5. It will be noted that the means of All Teachers-All Students show a very orderly progression on the pre-test data, with second graders showing the highest mean (M = 1.10), third graders the next highest (M = 1.05), on down to the sixth graders with the lowest (M = 0.91).

Table 4

MEAN NUMBER OF INAPPROPRIATE BEHAVIOR CATEGORIES OBSERVED BY SCHOOL

	Building Representatives				Other Teachers			
	Experimentals		Controls		Experimentals		Controls	
School #	Pre	Post	Pre	Post	Pre	Post	Pre	Post
1	0.90	1.18	1.13	1.07	0.83	0.74	0.85	0.92
2	0.96	0.71	0.81	0.71	1.27	0.88	1.08	1.30
3	1.12	0.83	0.87	0.80	0.97	1.04	0.84	0.69
4	1.23	1.45	1.22	1.43	1.42	1.48	1.24	1.32
5	1.19	1.22	0.95	1.04	0.94	0.88	0.68	0.72
6	0.78	0.87	0.75	0.53	*	*	*	*
7	1.14	1.03	1.08	0.93	0.78	0.95	0.96	0.89
8	1.32	1.13	0.89	0.99	0.87	0.43	0.75	0.55
9	1.33	1.75	1.16	1.10	1.21	0.94	0.80	0.99
10	0.61	0.31	0.42	0.57	1.00	1.17	0.83	0.77
11	1.44	1.38	0.94	1.07	0.90	1.50	0.40	1.21
12	0.80	0.57	1.13	1.15	0.93	0.83	1.06	0.75
13	1.26	0.99	1.06	0.97	*	*	*	*

*No children in this category are reported due to incomplete data.

Table 5

MEAN NUMBER OF INAPPROPRIATE BEHAVIOR CATEGORIES OBSERVED BY GRADE LEVEL

	Building Representatives				Other Teachers				All Teachers	
	Experimentals		Controls		Experimentals		Controls		All Students	
Grade	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
2	1.20	0.99	1.06	0.90	1.13	1.11	1.06	0.98	1.10	1.00
3	1.17	1.02	0.85	0.86	1.27	1.31	0.97	1.13	1.05	1.05
4	1.06	0.98	0.97	1.06	1.13	0.94	0.92	0.86	1.00	0.92
5	1.07	1.34	1.13	1.34	0.90	1.00	0.53	0.51	0.93	1.08
6	1.03	0.95	0.82	0.88	0.92	1.04	0.81	0.81	0.91	0.92

This is what would be expected in beginning-of-school-year behavior on the basis of student age and maturity. Behavior at the end of the year, however, could be expected to reflect teacher factors more directly, and the orderly grade arrangement disappears. It should be noted that the fifth and sixth graders showed increases in frequency of inappropriate behavior over the year, whereas grades two, three, and four showed decreases or no change. This is compatible with the suggestion, previously stated, that the teachers may have found behavior management techniques easier to apply with younger children.

Further support for this hypothesis is provided by comparing the data for the BR Experimentals for grades 2-4, in which substantial decreases in inappropriate behavior are shown, with that for BR Experimentals for grades 5-6. The pre-test mean for BR Experimentals for grades 2-4 combined was 1.15, while the post-test mean was 1.00. For grades 5-6 combined, the comparable values were 1.05 and 1.12 respectively. For the OT Experimentals the grades 2-4 pre-test mean was 1.16, and the post-test mean was 1.08. For grades 5-6, the values were 0.91 and 1.02 respectively. It can be seen, thus, that a decrease in inappropriate behavior occurred over the year for the lower grades, while the upper grades exhibited an increase. Further, it can be seen that these effects differed between

the BR and OT groups. This latter finding suggests that the 1972-73 in-service program did produce beneficial results with the BR group, but that the benefit was more pronounced at the lower grade levels. There is an implication here that effort should be devoted in next year's operation of the project to identifying more effective reinforcers for use by upper grade teachers.

Of course, there are alternative hypotheses that might be advanced to explain these data. For example, it is possible that there is a shift in teacher frame of reference from concern over general classroom behavior at the lower grade levels to a more specific concern over academic achievement at the upper grade levels. Or, it is possible that through accident of assignment and selection the fifth and sixth grades teachers are less effective as behavior managers. Whatever the reason, it would appear that the behavior management practices of teachers in the lower grades produce different effects from those at upper grade levels.

Another simple approach to examining these data is to look for differential effects on direction of behavior change. In this analysis each student's change from pre-test to post-test is classified as either an increase or a decrease in frequency of inappropriate behavior. Table 6 shows these results for comparing Experimental students for BR vs. OT groupings. As can be seen, the χ^2 value reveals no significant difference between BR and OT groups. Similarly, Table 7 shows the same comparison for Control students. Here too the difference between teacher groups is not significant. Finally, Tables 8 and 9 present comparisons between Experimental and Control students for BR and OT groups respectively. These analyses are consonant with those reported earlier for mean differences. They show a lack of significant difference between the two overall teacher groups (i.e., BR vs. OT) in reducing inappropriate behavior among conflict students.

Table 6

DIRECTION OF INAPPROPRIATE BEHAVIOR CHANGE BY TEACHER CATEGORY (EXPERIMENTAL STUDENTS)

Teacher Category	Change in Inappropriate Behavior Increase	Decrease	Totals
BR	39	47	86
OT	50	58	108
TOTALS	89	105	194

$\chi^2 = 0.017$

$p < .90$

Table 7

DIRECTION OF INAPPROPRIATE BEHAVIOR CHANGE BY TEACHER CATEGORY (CONTROL STUDENTS)

Teacher Category	Change in Inappropriate Behavior Increase	Decrease	Totals
BR	47	41	88
OT	53	60	113
TOTALS	100	101	201

$\chi^2 = 0.838$

$p < .50$

Table 8

DIRECTION OF INAPPROPRIATE BEHAVIOR CHANGE BY STUDENT CATEGORY
(BUILDING REPRESENTATIVES)

	Change in Inappropriate Behavior		
	Increase	Decrease	Totals
Experimentals	39	47	86
Controls	47	41	88
TOTALS	86	88	174

$\chi^2 = 1.130$

$p < .30$

Table 9

DIRECTION OF INAPPROPRIATE BEHAVIOR CHANGE BY STUDENT CATEGORY
(OTHER TEACHERS)

	Change in Inappropriate Behavior		
	Increase	Decrease	Totals
Experimentals	50	58	108
Controls	53	60	113
TOTALS	103	118	221

$\chi^2 = 0.008$

$p < .95$

Analysis of pre-post correlational data in the first year of the project revealed relatively low correlations among all teacher-student grouping except for the OT-Experimental grouping. The suggestion was made that teachers seek to change student behavior on a selective basis, i.e., that they do not seek equivalent change for all students, but concentrate on their more serious problem students. This would tend to produce low pre-post correlations. High correlation, on the other hand, could be caused by inattention to selective behavior change (or stated differently, equal attention to all students), or it could be caused by the teacher's inability to intervene on a selective basis. Pre-post correlations for the 1972-73 program are given in Table 10.

Table 10

CORRELATION OF PRE- AND POST-TEST OBSERVATIONS BY STUDENT-TEACHER CATEGORY

	Teachers	
Students	BR	OT
Experimentals	r = .46[a/]	r = .64[a/]
Controls	r = .59[a/]	r = .59[a/]

[a/] Significant at .001 level

The correlation pattern in Table 10 differs somewhat from that of the preceding year, with all correlations being moderately high. Only the value of the OT Experimental correlation (r = .64) is near to that found the preceding year (r = .68). Comparison of the various correlations in Table 10 with one another reveals no significant differences among them, though the difference between the correlation for BR Experimentals and OT Experimentals (i.e., .46 vs. .64) does approach significance ($p < .10$). This does suggest that the selective application of behavior management noted last year may still be more prevalant

among BR teachers than OT teachers when the students are those who have conflict problems. Stated differently, these data are consonant with the thesis that the special in-service training did provide the BR teachers with techniques and knowledge that allowed them to deal more selectively with the behavior of children with conflict problems.

While the discussion to this point has been concerned with inappropriate behavior, observations also included the category of "appropriate" behavior. As might be expected, inappropriate and appropriate behavior are the converse of one another. Correlations between these two variables were quite high and negative, varying from -.79 to -.89. Thus, a high frequency of inappropriate behavior tended to be accompanied by a low proportion of appropriate behavior and vice versa. The mean percentage of observation periods in which appropriate behavior was noted remained virtually constant from pre- to post-test. There was, however, a difference between Experimental and Control students for pre-test and post-test conditions and for both teacher groups. In all instances the mean percentage of appropriate behavior was higher for the Control students than for the Experimentals, as would be expected.

The first year results showed a significant relationship between teacher performance during Contingency Management Workshop and the behavior change observed in students of those teachers. In that analysis the teachers were classified by the workshop administrator into the half more likely to use contingency management effectively in the classroom and the half less likely to use it effectively. The results showed the "more likely" teachers produced significantly greater decreases in inappropriate behavior among Experimental students than did the "less likely" teachers. A similar analysis was conducted for BR teachers during 1972-73 year.

In the current analysis the BR teachers who were in the program for the first time and on whom there were both pre- and post data for Experimental

students were dichotomized into a "high" and "low" group on their workshop performance. These two groups were then compared in terms of the pre-post behavior change among their Experimental students. This comparison was made two ways: first, in terms of direction of behavior change (i.e., did the frequency of inappropriate behavior for each student increase or decrease from pre- to post-test, and second, in terms of pre- and post-test means for the observation data. The data for direction of behavior change are presented in Table 11.

Table 11

EXPERIMENTAL STUDENT BEHAVIOR CHANGE BY TEACHER WORKSHOP PERFORMANCE CLASSIFICATION

Teacher Workshop Performance	Change in Inappropriate Behavior		
	Increase	Decrease	Totals
High	12	11	23
Low	19	19	38
TOTALS	31	30	61

$\chi^2 = 0.03$

$p < .90$

As can be seen from Table 11, the χ^2 value indicates the differences are not statistically significant. Thus, the Experimental students of High group teachers were no more or less likely to exhibit decreases or increases in inappropriate behavior than were those of the Low group teachers. This might lead one to conclude that there is no relationship between workshop performance and effect on students. However, it should be kept in mind that the contingency management workshops were begun at the very beginning of the school year. Therefore, many of the BR teachers were already operating contingency management programs at the time the pre-test observation data were gathered in mid-October.

Since one of the features of contingency management is that it produces results rapidly, it was possible that the more effective contingency managers

(the High group) would already have effected a reduction in the inappropriate behavior of their Experimental students by the time the October pre-test observations were made. Therefore, the means of the pre- and post-test observations were computed for the High and the Low teacher groups. Results are shown in Table 12.

Table 12

MEAN PRE- AND POST-TEST BEHAVIOR OBSERVATION SCORES BY TEACHER WORKSHOP PERFORMANCE CLASSIFICATION (Experimental Students Only)

Teacher Workshop Performance	Means	
	Pre-Test	Post-Test
High	0.96	0.94
Low	1.25	1.22

The data in Table 12 are compatible with the hypothesis concerning the effects of teacher classroom management techniques on pre-test data. At the time of the pre-test data collection a significant difference ($t = 2.89$; $p < .01$) existed between students of those teachers rated High in their workshop performance and those of teachers rated Low in their workshop performance. Further, this difference continued to exist in the post-test means at the end of the year ($t = 2.38$; $p < .05$). Also, it should be noted that neither group effected further change in their students of any consequence after the pre-test data collection. The High teachers continued to maintain their students at a fairly low (and probably tolerable) level of inappropriate behavior throughout the year, while the Low teachers did not reduce the frequency of inappropriate behavior by their Experimental students. It is possible, of course, that these differences merely reflect the effects of chance assignment of students or pre-existing differences in the skills and capabilities of the teachers concerned.

This analysis was carried further by dichotomizing the High group into two groups (++ and +) and the Low into two groups (-- and -). The ++ and -- groups

were then compared in the manner previously described. Again, the difference in direction of behavior change is not significant, though the proportion of students showing "increase" is somewhat greater for the Low teachers. The difference in means between ++ and -- teacher groups is quite pronounced. Results of these analyses are shown in Tables 13 and 14.

Table 13

EXPERIMENTAL STUDENT BEHAVIOR CHANGE BY TEACHER WORKSHOP PERFORMANCE CLASSIFICATION

Teacher Workshop Performance	Change in Inappropriate Behavior Increase	Decrease	Totals
High (++)	6	7	13
Low (--)	13	8	21
TOTALS	19	15	34

$\chi^2 = 0.81$

$p < .50$

Table 14

MEAN PRE- AND POST-TEST BEHAVIOR OBSERVATION SCORES BY TEACHER WORKSHOP PERFORMANCE CLASSIFICATION (Experimental Students Only)

Teacher Workshop Performance	Means Pre-Test	Post-Test
High (++)	0.90	0.83
Low (--)	1.33	1.42

This last analysis, as would be expected from taking extreme groups, further amplifies the trend noted in the first High-Low dichotomy. The data are quite compatible with the hypotheses that a teacher's workshop performance is directly related to her performance as a contingency manager in the classroom. Further, the difference in temporal relationship of the contingency management workshop and the pre-test data collection from the first year of the project to the second would be a possible explanation of the difference in results for the two years. During the first year of the project the pre-test data were gathered

in September prior to the conduct of the contingency management workshop, whereas during the second year this relationship was reversed, the workshop being given prior to the pre-test data collection. This change in schedule, while undesirable, was unavoidable due to administrative considerations.

A similar analysis was conducted for the Control students of the High (++) and Low (--) teachers. In this analysis the direction of behavior change did produce a significant difference ($\chi^2 = 8.45$; $p < .01$) in favor of the High (++) group. The comparison of mean scores for the two teacher groups showed no significant difference in the pre-test ($t = 0.59$), but a highly significant difference in post-test means ($t = 4.04$; $p < .001$). The Control students of the High (++) teachers showed a reduction from pre- to post-test, while those of the Low (--) group showed an increase. These data are consonant with those reported for the Experimental students and also would support the thesis that the teacher who is more effective in managing Experimental students is also effective with the Controls. Thus, there is evidence that the effects of the in-service training generalize to all students or a teacher, not being applicable just to those with conflict problems.

ATTENDANCE RESULTS

Analysis of data on student absences shows no difference between students of BR teachers and those of OT teachers. Neither are the differences between pre- and post-test absences (i.e., absences during 1971-72 and 1972-73) significant for any student or teacher grouping. Thus, teacher participation or non-participation in the in-service program bore no relationship to student attendance patterns.

As might be expected, though, there were significant differences between Experimental and Control students in attendance, with the Experimentals being

absent approximately one-fourth more than the Controls. Data on student absences are given in Table 15. The t-tests for the various mean comparisons are given in Table 16.

Table 15

MEAN STUDENT ABSENCES BY TEACHER-STUDENT GROUP AND YEAR

	Teacher Group			
	Building Representatives		Other Teachers	
Student Group	1971-72	1972-73	1971-72	1972-73
Experimentals	8.94	9.29	8.38	8.91
Controls	5.16	5.45	5.88	5.09

Table 16

SIGNIFICANCE TESTS (t) FOR ABSENCE DATA

BR Experimentals 1971-72 vs. BR Experimentals 1972-73	0.19
BR Controls 1971-72 vs. BR Controls 1972-73	0.42
OT Experimentals 1971-72 vs. OT Experimentals 1972-73	0.58
OT Controls 1971-72 vs. OT Controls 1972-73	1.24
BR Experimentals 1971-72 vs. BR Controls 1971-72	2.11[a]
BR Experimentals 1972-73 vs. BR Controls 1972-73	3.46[c]
OT Experimentals 1971-72 vs. OT Controls 1971-72	1.91
OT Experimentals 1972-73 vs. OT Controls 1972-73	3.17[b]

[a] $p < .05$

[b] $p < .01$

[c] $p < .001$

In a further analysis of absence data, absences for the 1972-73 year for all children in a teacher's room were summed and divided by the number of children on roll. This yielded a mean number of absences per child. Using this figure as an attendance index for each teacher, the mean index for all BR and for all OT teachers was computed. The mean was 8.50 for BR teachers and 7.74 for OT teachers. The t-ratio of 1.00 indicates no significant difference between the two teacher groups in terms of student absences.

INFORMAL OBSERVATIONS

Members of the evaluation team had many occasions to work with the BR teachers and to visit their classrooms. In addition, there were regular contacts with principals, members of the project staff, the project director, and the Superintendent of the Dothan City Schools. While these contacts did not provide data for formal statistical evaluation, they, along with the data, do permit certain comments.

STUDENT-RELATED OBJECTIVES

With reference to the student-related objectives of the project, it would appear that the project is making a significant contribution. Obviously, not every intervention by a teacher with a student problem is successful, but there are definite signs of behavioral benefit. Achievement data will be available for this evaluation in October, 1973, and will be analyzed in a subsequent study, for regardless of one's ordering of the hierarchy of objectives and functions for public education, there is general agreement that the transmission of knowledge and the demonstration of (and the experience of) mastery is of critical importance.

STAFF-RELATED OBJECTIVES

In regard to staff-related objectives there is also evidence that the project is accomplishing much. Teachers have acquired new skills and new knowledge, and, more importantly, many have implemented innovative practices in their day-to-day teaching. It should be noted that the program has served as a catalyst to bring forth many novel and innovative ideas and practices from the teachers themselves. Their products are sometimes greater than the summation of the various input components of the in-service training program. At the same time, it should be noted that for a small group of teachers there is a negative attitude toward

change, an attitude that may be understandable, but which prevents the implementation of new practices. For an even smaller group, it would appear that significant change is impossible, not so much because of adverse attitudes, as because of habit strength or inability to learn new approaches.

The area of communication of goals and procedures to staff, principals, and faculty continues to be a problem. Most of the principals were cooperative and supportive of the program, but some were less so. They were more concerned over interference with the routine of their school than with the possible system-wide benefits. This is, in part, related to attitudes, but is also partly a function of lack of sufficient supervisory staff to cover a program this large. However, it should be noted that progress has been made through the institution of new procedures. Additional changes are planned for the future which should further alleviate this problem.

PARENT-RELATED OBJECTIVES

Involvement of parents on a program basis is difficult. Involvement tends to be related to individual problem situations. There have been, of course, numerous communications with parents by the teachers and by the school system, but it has not been possible to implement a program of parent involvement as an integral part of the Comprehensive Services project per se. One reason for this is the evaluation design necessity for not divulging the identity of the target students. For this reason, it is likely that parent involvement will continue to be largely on an individual basis.

An involvement of parents with the program which is worthy of note was the part played by the classroom behavior observation team. Their participation was, of course, not related to the type of intervention objectives described under

the "parent related" heading. However, the observers, who were parents of children in the school system, made a significant contribution to the project. Their participation is one example of the many ways in which parents can work cooperatively with the schools in achieving common goals.

In view of the data which point up the criticality of the early grade years in the development of appropriate school behaviors, it would seem that this is where a program of parent involvement should be heaviest. Consideration should be given to this possibility in the next year of the project. Not only would this aid in developing appropriate student behavior patterns that would carry over to upper grade levels, it would also aid in developing parental behavior patterns of involvement and concern that would carry over into future years.

COMMUNITY-RELATED OBJECTIVES

An active program of disseminating information to the community was conducted. The program was given much favorable publicity, as for example when it received national recognition as an exemplary program. Also, there was a vigorous effort to integrate the activities of all the helping agencies in the community through the formation of a Human Resources Council. This Council can serve as a focal point for interagency referral, service delivery, and cooperative projects.

ADMINISTRATION-RELATED OBJECTIVES

It is difficult, at this point, to assess the extent to which objectives related to school administration have been met. Undoubtedly, though, the administration is accumulating useful data for program management purposes. An important area of concern for all school systems in Alabama is the requirement

for developing effective programs of in-service continuing education. This project has provided the Dothan City Schools administration detailed information on program inputs, program costs, and program outcomes or benefits. Further, it has provided a model that can be useful to other systems.

SUMMARY RESULTS

Overall evaluation of the results of this second year of operation of the Comprehensive Services Project is an extremely complex matter. Certain changes were made in the program after the first year, and a number of administrative actions affected outcomes. In addition, as in any large-scale program, there were also a number of chance factors that affected the results. A large amount of data was gathered, and the evaluation team had the opportunity to observe first-hand and often the workings of the program. The results substantiate many of the first-year findings. However, the function of program evaluation is to provide an overall assessment of major aspects of the program for management use. With this in mind, the following conclusions seemed warranted.

1. The Comprehensive Services program is providing benefits for both the target emotional conflict student group and for students in general.

The benefits are in the form of better classroom management by teachers who are able to apply the techniques for modifying student behavior from inappropriate to appropriate. The benefits of a program such as the present one are to be found in the effects on student behavior. While it is obvious that school systems are concerned with student attitudes, it is equally obvious that most of what takes place in school has the goal of changing student behavior. The results support the case that: the program brought about changes in teacher behavior (i.e., their application of skills and knowledge taught in the in-service program) for some, but not all, teachers; that these changes, in turn, brought about desirable changes in student behavior; and that the teacher effects generalize across all classes of students.

2. In-service training programs will not produce equal benefit for all teachers.

One characteristic of the second year of operation of this program has

been the broadening of the teacher base covered. About twice as many teachers participated as Building Representatives the second year of the program as did the first. While all were volunteers, the eagerness of the second-year group to participate was perhaps less than that of the first-year group. It is possible--probably likely--that as a given in-service program covers more of a teacher population, a larger number of teachers who are unwilling or unable to profit from the in-service program will be drawn into it. Therefore, it is not surprising that a number will not benefit from the program and that program results will change as the number of participants increases. This will be true of any in-service program and provides justification for individualizing in-service training as much as possible. At the same time, it points up the need for specification of both general and specific teacher in-service objectives and for means of measuring teacher (and system) progress in reaching those objectives.

3. The temporal relationship of contingency management workshops and pre-test data collection will affect data outcomes.

This finding, while not surprising, has implications for the conduct of the third year of the program. Pre-test data should be collected before contingency management programs are in full operation. There is a possibility that the amount of change in student behavior during the first weeks of school, i.e., change from the end-of-year behavior for the preceding school year, may be useful as an index to teacher classroom management efficiency. The data reported here indicate that divergence between more effective classroom managers and less effective ones appears early in the year and increases over the course of the year. Further exploration of this technique for measurement would seem warranted.

4. Differences between schools may be important in determining outcomes.

There was evidence that different schools produced quite different results in the data. While there are a number of possible reasons that could be advanced, the possible effects of faculty and administration attitudes toward change and innovative programs are of concern here. The criticality of common goals and open communication throughout the system in implementing a program such as the present one is obvious. This should be an area of concern for the next year's operation of the Comprehensive Services program.

5. There were differences in behavioral outcomes as a function of student grade level.

This finding has implications for teacher classroom management techniques and for the design of the Comprehensive Services program for the next school year. It also points up the criticality of having teachers apply effective classroom management techniques at the earliest grade levels so that students develop effective classroom behavior patterns.

6. The data indicate that teacher classroom performance and the effects of that performance on students are predictable from teacher workshop performance during in-service training.

This finding supports the need for in-service training for teachers and points up the utility of such training for transferring new knowledge and skills to the staff. The utility of such relationships for management in the development and upgrading of faculty and staff is also obvious.

7. There is an indication that the beneficial effects of the in-service training continue over time.

Those teachers who participated as Building Representatives the first year of the project continued to apply effectively the classroom management techniques they acquired the previous year. Thus, there is a carry-over of performance from one year to the next. This is a "turnkeying" of the program benefits.

APPENDIX A

SCHEDULE OF IN-SERVICE TRAINING ACTIVITIES

FOR SCHOOL YEAR 1972-1973

SCHEDULE OF IN-SERVICE TRAINING ACTIVITIES FOR SCHOOL YEAR 1972-1973

COMPREHENSIVE SERVICES FOR CHILDREN

TARGET DATE	ACTIVITY
May 31, 1972	Selection of building representatives for FY 73
June 30, 1972	Plan calendar for Project Staff development
June 30, 1972	Conduct Orientation Program for Elementary Principals
August 16-18, 1972	Conduct Communication Skill Workshop for 15 project staff and 52 elementary teachers prior to the opening of school
	In-service Activities as follows - typical schedule (substitutes provided and teachers are released for a full day.)
September 12, 1972	a. Contingency Management Workshop - day 1
September 26, 1972	b. Contingency Management Workshop - day 2
October 10, 1972	c. Contingency Management Workshop - day 3
October 24, 1972	d. Contingency Management Workshop - day 4
November 7, 1972	e. Contingency Management Workshop - day 5
November 28, 1972	f. Reaching and Teaching Culturally Deprived
December 12, 1972	g. Communication Skills Workshop Follow-up
January 16, 1973	h. Teaching Strategies for Personalized Instruction
January 30, 1973	i. Trip to visit out-of-city school (exemplary program)
February 13, 1973	j. Visit Accelerated Learning Achievement Center, Reading, Dothan
February 27, 1973	k. The Teacher as a Classroom Manager
March 20, 1973	l. Visit Accelerated Learning Achievement Center, Math, Dothan
April 10, 1973	m. Parental Counseling Techniques and Methods
April 24, 1973	n. Trip to visit out-of-city school (exemplary program)
May 8, 1973	o. Summary and Critique

APPENDIX B

1. PUPIL RATING FORM

2. ROOM RATING FORM
(Exceptional Student Rating Form)

DOTHAN CITY SCHOOLS
Pupil Rating Form

INSTRUCTIONS TO RATING TEACHER

This rating form consists of pairs of generally favorable and generally unfavorable words--one of each per pair. Each pair defines the limits of a continuum or scale describing some aspect of behavior, personality, or adjustment. Every pupil can be described in terms of his placement at some point on each continuum or scale. Your task is to circle a number from "1" to "7"--to describe each of your pupils on each of the scales listed. Circling the number "1" indicates that, in your opinion, the pupil is best described by the more favorable of the two words, i.e., the word on the left. Circling the number "7" indicates he is best described by the less favorable word. You may circle any number "2" through "6" to indicate that he is somewhere between the two extremes. The numbers "2" and "3" are favorable, while "5" and "6" are unfavorable, and "4" is about midway between the two extremes. Please be sure, however, to look at both words defining a scale before making your judgment. Most pupils will probably fall toward the more favorable end of the scales. Examples of the scales are shown below. Please complete one answer sheet (all scales) for each pupil currently enrolled in your class. Mark only one number of each scale.

EXAMPLE

agreeable	1	2	3	4	5	6	7	disagreeable
happy	1	2	3	4	5	6	7	sad

B-1

DOTHAN CITY SCHOOLS
Pupil Rating Form

Pupil _____ School _____

Teacher _____ Grade _____

agreeable	1	2	3	4	5	6	7	disagreeable
happy	1	2	3	4	5	6	7	sad
friendly	1	2	3	4	5	6	7	hostile
sociable	1	2	3	4	5	6	7	withdrawing
cooperative	1	2	3	4	5	6	7	antagonistic
secure	1	2	3	4	5	6	7	anxious
industrious	1	2	3	4	5	6	7	lazy
self-confident	1	2	3	4	5	6	7	timid
trustworthy	1	2	3	4	5	6	7	deceitful
easy-going	1	2	3	4	5	6	7	quarrelsome
attentive	1	2	3	4	5	6	7	inattentive
adaptable	1	2	3	4	5	6	7	non-conforming
energetic	1	2	3	4	5	6	7	listless
even-tempered	1	2	3	4	5	6	7	bad-tempered
cheerful	1	2	3	4	5	6	7	depressed
obedient	1	2	3	4	5	6	7	defiant
courteous	1	2	3	4	5	6	7	disrespectful
cautious	1	2	3	4	5	6	7	impulsive
flexible	1	2	3	4	5	6	7	compulsive
mature	1	2	3	4	5	6	7	infantile
calm	1	2	3	4	5	6	7	restless
compassionate	1	2	3	4	5	6	7	malicious
tractable	1	2	3	4	5	6	7	stubborn
modest	1	2	3	4	5	6	7	arrogant

DOTHAN CITY SCHOOLS
Room Rating Form
Exceptional Student Rating Form

School _____ Grade _____

Rating Teacher _____ Date _____

INSTRUCTIONS: Read each paragraph below and indicate by name any pupil or pupils in your room this school year who tend to act in the manner described. No pupil will act as illustrated in all respects, but there may be one or more in your room who generally act in the manner described. If so, list them in order in the spaces provided. If there are more than four pupils who fit a particular paragraph, list only the four who best fit it. You may have less than four to list for one or more of the paragraphs, and you may list any pupil under more than one paragraph.

A child who is AGGRESSIVE commits one or more of the following kinds of acts with relative frequency: hitting, punching, kicking, slapping, striking with hands or objects; throwing objects at others; pulling hair, disturbing others' books, desk, etc.; destroying another's property. If there were pupils in your room this year whom you consider particularly AGGRESSIVE, list them below in order.

Most aggressive _____

Second most aggressive _____

Third most aggressive _____

Fourth most aggressive _____

A child who is VERBALLY DISRUPTIVE commits one or more of the following kinds of acts with relative frequency: talks to others when not permitted; interrupts teacher; interrupts other pupils' recitations; calls teacher's name to get attention; laughs, coughs, etc., to get attention; makes frequent "wise cracks" in class. If there were pupils in your room this year whom you consider particularly VERBALLY DISRUPTIVE, list them below in order.

Most verbally disruptive _____

Second most verbally disruptive _____

Third most verbally disruptive _____

Fourth most verbally disruptive _____

Room Rating Form - 2

A child who is SOCIALLY INSECURE commits one or more of the following kinds of acts with relative frequency: speaks in a very soft voice; avoids playing with other pupils; speaks in halting voice; keeps to self; contributes to class only when called upon; remains in seat more than most pupils; avoids being first at anything; shirks from notice. If there were pupils in your room this year whom you consider particularly SOCIALLY INSECURE, list them below in order.

Most socially insecure _____

Second most socially insecure _____

Third most socially insecure _____

Fourth most socially insecure _____

A child who is BEHAVIORALLY DISRUPTIVE commits one or more of the following kinds of acts with relative frequency: gets out of seat without permission; runs and/or jumps around the classroom and halls; rocks seat; taps pencil; drops books; touches other pupils' desks. If there were pupils in your room this year whom you consider particularly BEHAVIORALLY DISRUPTIVE, list them below in order.

Most behaviorally disruptive _____

Second most behaviorally disruptive _____

Third most behaviroally disruptive _____

Fourth most behaviorally disruptive _____

A child who has LOW SELF-ESTEEM commits one or more of the following kinds of acts with relative frequency: professes inability to do assignments; fails to undertake assigned work; expresses self-criticism; avoids competitive situations; avoids responding to the teacher's questions; turns in assignments late; takes more time to answer questions than most other pupils; expresses satisfaction with poor performance. If there were pupils in your room this year whom you consider to have particularly LOW SELF-ESTEEM, list them below in order.

Lowest in self-esteem _____

Second lowest in self-esteem _____

Third lowest in self-esteem _____

Fourth lowest in self-esteem _____

Room Rating Form - 3

A child who is EMOTIONALLY OVER-REACTIVE commits one or more of the following kinds of acts with relative frequency: cries; soils clothes; loses temper; throws things (not necessarily at people); destroys things; over reacts to criticism; shouts at others; accuses others when anything goes wrong. If there were pupils in your room this year whom you consider particularly EMOTIONALLY OVER-REACTIVE, list them below in order.

Most emotionally over-reactive _____

Second most emotionally over-reactive _____

Third most emotionally over-reactive _____

Fourth most emotionally over-reactive _____

APPENDIX C

CATEGORIES OF STUDENT BEHAVIOR

CATEGORIES OF STUDENT BEHAVIOR FOR USE OF DOTHAN CITY SCHOOLS OBSERVERS[1]

Gross Motor. Getting out of seat, standing up, running, hopping, skipping, jumping, walking around, moving chairs, disruptive movement without noise, striking at (but not touching) others, etc.

Object Noise. Tapping pencil or other objects, clapping, tapping feet, rattling or tearing paper, throwing book on desk, slamming desk. (Be conservative, rate only if you can hear the noise with eyes closed. Do *not* include accidental dropping of objects.)

Disturbance of Other's Property. Grabbing objects or work, knocking neighbor's books or other items off desk, destroying another's property, pushing with desk (rate only if someone is there), throwing objects at another person without hitting them. (Do not include accidental disturbance of other's property.)

Contact. Hitting, kicking, shoving, pinching, slapping, striking with object, throwing object which its another person, poking with object, biting, pulling hair, touching, patting, etc. (Any physical contact is rated.)

Verbalization. Carrying on conversations with other children when inappropriate. Answering teacher without raising hand or without being called on; making comments or calling out remarks when no questions have been asked; calling teacher's name to get her attention; crying, screaming, singing, whistling, laughing, coughing, or blowing loudly. (These responses may be directed to teacher or children or they may be undirected.)

Turning Around. Inappropriately turning head or head and body to look at another person, showing objects to another child, attending to another child. (Must be of 4-sec. duration, or more than 90 degrees--using desk as a reference. Not rated unless seated.)

Mouthing Objects. Bringing thumb, fingers, pencils, or any object into contact with the mouth.

Other Inappropriate Behavior. Ignoring teacher's question or command. Doing something different from that directed to do, including minor motor behavior such as playing with pencil or eraser when supposed to be writing, coloring while a record is on, doing spelling during the arithmetic lesson, playing with objects. *The child involves himself in a task that is not appropriate.*

Appropriate Behavior. Time on task, e.g., answering questions, listening, raising hand, working on assignments. (Must include whole observation interval except for Turning Around responses of less than 4-sec. duration.)

---

[1]These categories of student behavior were adapted from "Behavioral Coding Categories for Children" in the article "Rules, Praise, and Ignoring: Elements of Elementary Classroom Control," by Charles H. Madsen, Jr., Wesley C. Becker, and Don R. Thomas, (Florida State University and University of Illinois), *Journal of Applied Behavior Analysis,* 1968, *I,* 139-150.

APPENDIX D

DOTHAN CITY SCHOOLS

OBSERVER DATA FORMS

DOTHAN CITY SCHOOLS OBSERVER DATA FORM

School_____ Grade_____ Day of Week_____

Teacher_____ Room_____ Time_____

Observer_____ Obs. No. _____ Date_____

NAME									
OBS	GM	ON	D	C	V	TA	MO	OIB	AB
1									
2									
3									
4									
5									
6									

NAME									
OBS	GM	ON	D	C	V	TA	MO	OIB	AB
1									
2									
3									
4									
5									
6									

NAME									
OBS	GM	ON	D	C	V	TA	MO	OIB	AB
1									
2									
3									
4									
5									
6									

NAME									
OBS	GM	ON	D	C	V	TA	MO	OIB	AB
1									
2									
3									
4									
5									
6									

NAME									
OBS	GM	ON	D	C	V	TA	MO	OIB	AB
1									
2									
3									
4									
5									
6									

NAME - ALTERNATE									
OBS	GM	ON	D	C	V	TA	MO	OIB	AB
1									
2									
3									
4									
5									
6									

GM - Gross Motor
ON - Object Noise
D - Disturbance of Other's Property
C - Contact
V - Verbalization
TA - Turning Around
MO - Mouthing Objects
OIB - Other Inappropriate Behavior
AB - Appropriate Behavior

STUDENT DATA WEEKLY SUMMARY SHEET

Student _____

School _____ Grade _____

Teacher _____

BR OT Observer No. _____
1 2 3

Student Group _____ _____

OBSERVATION

	GM	ON	D	C	V	TA	MO	DIS	TOTALS
MON									
TUE									
WED									
THUR									
FRI									
TOTALS									

APPENDIX E

DISTRIBUTION OF EXPERIMENTAL AND CONTROL STUDENTS BY GRADE, TEACHER CATEGORY, SCHOOL, AND OBSERVER

GRADE		SECOND				THIRD			
STUDENT GROUP		EXP.		CONT.		EXP.		CONT.	
TEACHER CATEGORY		BR	OT	BR	OT	BR	OT	BR	OT
SCHOOL	OBS. #								
Cloverdale	1								8
Cloverdale	2	2	1	3	3				
East Highlands	3	3		2		1			
Girard	4			5					
Girard	5						2		1
Girard	6		3		2	3		2	
Grandview	7		2		2		1		3
Grandview	8		3		2	2		2	
Grandview	9		1		2				
Grandview	10		3		2	3		1	
Heard	11		1		4	1		4	
Heard	12								
Highlands	13	1		4					
Lake St.	14						2		2
Lake St.	15	1		3		2			
Montana	16	2		3		2			
Montana	17		3		2	3		2	
Rose Hill	18								
Rose Hill	19						3		1
Selma	20								
Selma	21		1		4		2		3
Selma	22					2		3	
Southside	23								
Southside	24		3		2			5	
Stringer	25	2		1		2	2	1	2
Stringer	26								
Stringer	27		5		4				
Wilson St.	28	2		3		2			
Total No. students observed Grade x Teacher category x student group		13	26	24	29	23	12	20	20

GRADE		FOURTH				FIFTH			
STUDENT GROUP		EXP.		CONT.		EXP.		CONT.	
TEACHER CATEGORY		BR	OT	BR	OT	BR	OT	BR	OT
SCHOOL	OBS. #								
Cloverdale	1					2		3	
Cloverdale	2		2		3		2		2
East Highlands	3		1		3				
Girard	4				5		10		
Girard	5	1		4			1		2
Girard	6		2		3				
Grandview	7	2		2		3		2	
Grandview	8						3		2
Grandview	9		2		2	2		2	
Grandview	10		1		4				
Heard	11		2		3				
Heard	12		1		4	3		7	
Highlands	13					3			
Lake St.	14	4							
Lake St.	15		2		1	2		1	
Montana	16						2		3
Montana	17		1		4				
Rose Hill	18								
Rose Hill	19		4	2	3				
Selma	20								
Selma	21								
Selma	22		3		2		3		2
Southside	23								
Southside	24					2		3	
Stringer	25						3		
Stringer	26	2	2	3	1		4		1
Stringer	27								
Wilson St.	28	3		1					
Total No. students observed Grade x Teacher category x student group		12	23	12	38	17	28	18	12

GRADE		SIXTH					
STUDENT GROUP		EXP.		CONT.			
TEACHER CATEGORY		BR	OT	BR	OT	OBSERVER TOTAL	SCHOOL TOTAL
SCHOOL	OBS. #						
Cloverdale	1	3		1		17	
Cloverdale	2					18	35
East Highlands	3					10	10
Girard	4					20	
Girard	5		3		2	16	
Girard	6	3		2		20	56
Grandview	7					17	
Grandview	8					14	
Grandview	9		3		2	16	
Grandview	10		3		2	19	66
Heard	11			5		20	
Heard	12		1		4	20	40
Highlands	13					8	8
Lake St.	14	2	3	1	1	15	
Lake St.	15					12	27
Montana	16					12	
Montana	17		1		4	20	32
Rose Hill	18					0	
Rose Hill	19	4		1		18	18
Selma	20					0	
Selma	21		4	1		15	
Selma	22		2		2	19	34
Southside	23					0	
Southside	24	3		2		20	20
Stringer	25					13	
Stringer	26	5				18	
Stringer	27					9	40
Wilson St.	28	2		3		16	16
Total No. students observed Grade x Teacher category x student group		22	20	16	17	402	402